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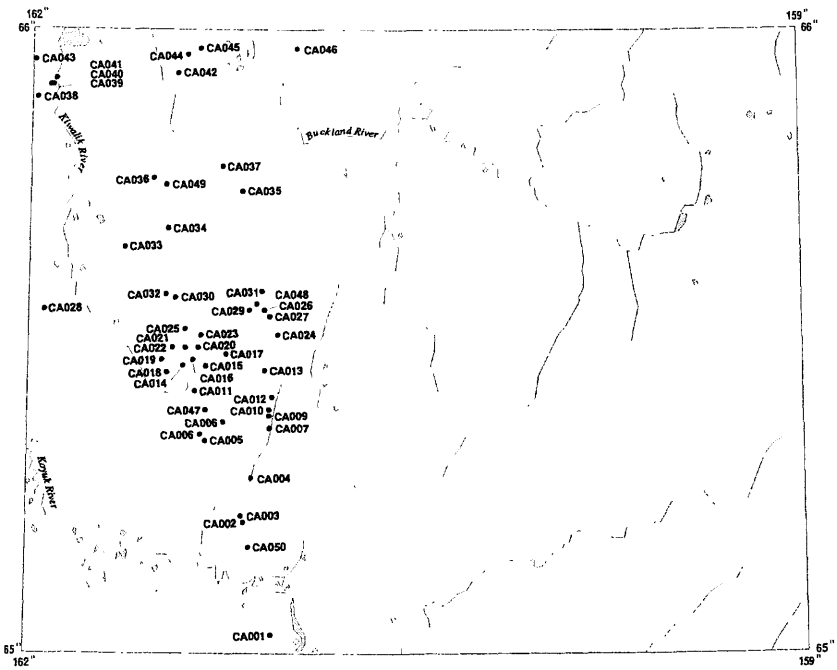
Alaska Resource Data File

Candle quadrangle

Descriptions of the mineral occurrences shown on the accompanying figure follow. See U.S. Geological Survey (1996) for a description of the information content of each field in the records. The data presented here are maintained as part of a statewide database on mines, prospects and mineral occurrences throughout Alaska.



Distribution of mineral occurrences in the Candle 1:250,000-scale quadrangle, northwestern Alaska

This and related reports are accessible through the USGS World Wide Web site http://ardf.wr.usgs.gov. Comments or information regarding corrections or missing data, or requests for digital retrievals should be directed to: Frederic Wilson, USGS, 4200 University Dr., Anchorage, AK 99508-4667, e-mail fwilson@usgs.gov, telephone (907) 786-7448. This compilation is authored by:

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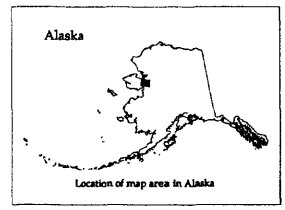

OPEN-FILE REPORT 00-025

Site name(s): Alameda Creek

Site type: Prospect

ARDF no.: CA001

Latitude: 65.03 **Quadrangle:** CA A-5

Longitude: 161.05

Location description and accuracy:
Placer ground located east of headwaters of Alameda Creek. The map site is in section 23, T. 5 S., R. 12 W., of the Kateel River Meridian. Cobb, 1972 (MF-386), location 46.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals: Magnetite

Geologic description:
This gold placer prospect occurs in a short section of Alameda Creek. The deposit apparently is in a paleochannel uncut by the present stream. The deposit was explored by shafts, from which a small amount of gold was recovered. Pan concentrates contained a little gold, much magnetite and some undecomposed sulfides. Gravel on bedrock contained about $0.01 per pan (gold at $20.67/ounce) (Smith and Eakin, 1911).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au-PGE (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: None

Site Status: Inactive

Workings/exploration:

In the early 1900's one shaft was sunk 192 feet without reaching bedrock (Smith and Eakin, 1911). It was mainly in well-rounded quartz gravel. Another shaft hit lava at 32 feet. Gravel on bedrock contained about $0.01 per pan (gold at $20.67/ounce).

Production notes:

Gold was too scarce to support mining operations in 1909.

Reserves:

Additional comments:

Stream gradient approximately 50 feet per mile.

References:

Smith and Eakin, 1910; Smith and Eakin, 1911; Koschman and Bergendahl, 1968; Cobb, 1972 (MF 389); Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-866).

Primary reference: Smith and Eakin, 1911

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Dime Creek; Haycock; Dime Creek Dredging Co.; Dime Creek Mining Co.; Haycock Mining Co.; Moon and Ryan; Smith

Site type: Mine

ARDF no.: CA002

Latitude: 65.21 **Quadrangle:** CA A-5

Longitude: 161.16

Location description and accuracy:

The Dime Creek gold placer mine is just east of the village of Haycock. It is in section 20, T. 3 S., R. 12 W., of the Kateel River Meridian. At various times, this site has been referred to as Haycock, Dime Creek Dredging Company, Dime Creek Mining Company, Haycock Mining Company, Moon and Ryan, and Smith. Cobb, 1972 (MF-389), location 45.

Commodities:

Main: Au

Other: Cr, Pt

Ore minerals: Chromite, gold, platinum

Gangue minerals:

Geologic description:

Dime Creek flows near a fault (?) contact between Paleozoic metalimestones and Jurassic-Cretaceous andesites. The andesites are intruded by small, mafic and ultramafic plutons. At the old placer mine, the gold is mainly on metamorphosed, andesite bedrock; some gold also is in the overlying 2 to 3 feet of gravel. In the stream bed the paystreak is well defined, while on the benches there are several, linear concentrations of gold. These bench concentrations were thought to be caused by wave action. Assays of gold from Dime Creek returned as high as 961 parts gold and 32 parts silver. The placers also contained platinum in approximate ratio to gold of 1:200. Analysis of platinum minerals from concentrate gave the following results: 88.8% Pt, I4.7% Ir, 4.3% Os + Ir, 1.1% Rh, 1.1% Pd (Mertie, 1969). The placer deposits in the upper portion of the creek produced almost twice as much platinum as the lower claims. On both creek and bench claims the overburden thickness ranges from 10 to 30 feet ; all of the ground was frozen. Heavy minerals in the concentrate from a second tier bench claim include iron-oxides, abundant chrome spinel, olivine, pyroxene, rare garnet, and rutile (Harrington, 1919).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au-PGE (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:
The Dime Creek placers were mined intermittently from 1915 through at least the early 1990's. The deposits were worked mostly by drift and open-cut mining. A small dredge operated from 1931 to 1940.

Production notes:
On the lower end of Dime Creek, one ounce of platinum was produced for every 250 ounces of gold. On the upper claims there may have been as much as one ounce of platinum produced for every per 100 ounces of gold. A total of 35 ounces of platinum was recovered from placers at Dime Creek in 1917 (Harrington, 1919). Most of the 56 ounces of platinum reported from the Seward Peninsula in 1918 came from Dime Creek (Cathcart, 1920). Brooks and Martin (1921) report 32 ounces of platinum from the Dime Creek area.

Reserves:

Additional comments:
Stream gradient is approximately 50 feet per mile.

References:
Brooks, 1916; Smith, 1917 (BMB 142); Smith, 1917 (BMB 153); Brooks, 1918; Mertie, 1918; Harrington, 1919; Martin, 1919; Cathcart, 1920; Martin, 1920; Brooks, 1921; Brooks and Martin, 1921; Harrington, 1921; Brooks, 1922; Cathcart, 1922; Brooks, 1923; Mertie, 1923; Brooks, 1925; Smith, 1926; Moffit, 1927; Smith, 1929; Smith, 1930 (B 810); Smith, 1930 (B 813); Smith, 1932; Smith, 1933 (B 836); Smith, 1933 (B 844-A); Smith, 1934 (B 857-A); Smith, 1934 (B 864-A); Smith, 1936; Smith, 1937; Smith, 1938; Smith, 1939 (B 910-A); Smith, 1939 (B 917-A); Smith, 1941; Smith, 1942; Anderson, 1947; Gault and others, 1953; Cass, 1959; Mertie, 1969; Cobb, 1972 (MF 389); Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-866); Bundtzen and others, 1992.

Primary reference: Harrington, 1919; Mertie, 1969

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Eldorado Creek; Little Eldorado Creek

Site type: Mine

ARDF no.: CA003

Latitude: 65.22 **Quadrangle:** CA A-5

Longitude: 161.17

Location description and accuracy:
The Eldorado Creek placer mine is on the lower half mile of the creek, just north of the village of Haycock. Coordinates are for the approximate center of the workings. The site is in section 20, T. 3 S., R. 12 W., of the Kateel River Meridian. The site is also referred to as Little Eldorado Creek. Cobb, 1972 (MF-389), location 45.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
Placer claims were staked in 1915 after gold was discovered near the mouth of [Little] Eldorado Creek. The creek follows the probable faulted contact between Paleozoic slate and limestone and Mesozoic andesitic volcanics. (Also see Dime Creek, ARDF number CA002).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au-PGE (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:

Mines in the area were drift or open cuts. Most mining occurred between 1915 and 1919.

Production notes:

In 1915, the production from 3 claims was said to be $3,000 (gold at $20.67/ounce). In 1916 the total production from Eldorado and Dime Creeks totaled about $100,000 from 8 claims; total production from 16 claims in 1917 was $150,000 (Harrington, 1919).

Reserves:

Additional comments:

Although placer gold was first discovered on Little Eldorado Creek, the richest placer ground was on Dime Creek. Stream gradient approximately 50 feet per mile.

References:

Harrington, 1919; Cass, 1959; Cobb, 1972 (MF 389); Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-866).

Primary reference: Harrington, 1919

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Lower Peace River

Site type: Prospect

ARDF no.: CA004

Latitude: 65.28 **Quadrangle:** CA B-5

Longitude: 161.13

Location description and accuracy:
This placer prospect is on lower Sweepstakes Creek near its junction with Peace River. It is in section 28, T. 2 N., R. 12 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 44.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
This site was prospected for placer gold during the winter of 1908. Two shafts were sunk on the east bank of the creek. The material on the dump was well-rounded river gravel consisting almost entirely of igneous rocks, some of which were iron-stained. The easternmost of the two shafts was probably no more than 15 feet deep. The other shaft could have been up to 25 feet deep. Another shaft further east on a higher bench was probably 5 to 10 feet deep. The dump material from this shaft consisted of less-rounded gravel and much more mud mixed with the sand. Apparently some gold was recovered from the shafts, but the placer was not rich enough to mine (Smith and Eakin, 1911).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au-PGE (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined

Site Status: Inactive

Workings/exploration:
Three prospect shafts were sunk in 1908.

Production notes:

Reserves:

Additional comments:
River gradient is less than 25 feet per mile.

References:
Smith and Eakin, 1910; Smith and Eakin, 1911; Harrington, 1919; Anderson, 1947; Cobb, 1972 (MF 389).

Primary reference: Smith and Eakin, 1911

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Lower Sweepstakes Creek; Eagle, Circle, Rampart and Fairbanks claims; A. Johnson; Moon; W. Porter; J. Winder

Site type: Mine

ARDF no.: CA005

Latitude: 65.34 **Quadrangle:** CA B-5

Longitude: 161.31

Location description and accuracy:
The lower Sweepstakes Creek placer mine is along Sweepstakes Creek at Bear Gulch, an eastward-flowing, informally named tributary which drains Bear Mountain. The mine is in section 3, T. 2 S., R. 13 W., of the Kateel River Meridian. At various times, the claims at this site also have been referred to as Eagle, Circle, Rampart, and Fairbanks; A. Johnson; Moon; W. Porter; and J. Winder. Cobb, 1972 (MF-389), location 41.

Commodities:

Main: Au

Other: Pt, radioactive minerals

Ore minerals: Gold, platinum, pyrite

Gangue minerals:

Geologic description:
Placer mining at this site was mainly in low bench deposits along the east side of Sweepstakes Creek. On these benches 2 to 6 feet of muck overlies 3 to 6 feet of gravel. Gravels in the creek bed are 6 to 14 feet deep. On lower claims depth to bedrock is 15 feet. Partially decomposed bedrock was excavated during mining to a depth of a few inches. Mining was mainly for gold, but a little platinum was recovered near the mouth of Bear Gulch. Sweepstakes Creek drains the southwestern part of the Cretaceous Granite Mountain monzonite pluton. Samples of concentrates or syenite-rich stream gravels contained chrome spinel, garnet, hematite, hydrothorianite, ilmenite, magnetite, uranothorianite, and zircon (Gault and others, 1953).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:

Placer Au-PGE (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:
Small-scale gold placer mining took place at this site from the 1900's until the 1950's. Some activity was reported in the area in 1989-1991 (Bundtzen and others, 1990; Bundtzen and others, 1992). In 1947 the U.S. Geological Survey sampled the placer to evaluate its radioactive mineral potential.

Production notes:
Gold worth $10,000 and an ounce of platinum reportedly were mined in 1917 (gold at $20.67/ounce) (Harrington, 1919). On Moon's claims 9 and 10, a placered area of 1,500 square feet consisted of 6 feet of gravel overlain by 6 feet of tundra. The paystreak was in a half-foot of gravel and 1 foot of bedrock. Moon recovered 9 ounces of gold at $28.50 per ounce (Gault and others, 1953).

Reserves:

Additional comments:
Stream gradient approximately 50 feet per mile.

References:
Brooks, 1913; Eakin, 1915; Harrington, 1919; Martin, 1919; Cathcart, 1920; Martin, 1920; Brooks, 1921; Brooks and Martin, 1921; Harrington, 1921; Brooks, 1923; Mertie, 1923; Smith, 1926; Smith, 1929; Smith, 1930 (B 810); Smith, 1930 (B 813); Smith, 1932; Smith, 1933 (B 836); Smith, 1933 (B 844-A); Smith, 1934 (B 857-A); Smith, 1934 (B 864-A); Smith, 1936; Smith, 1937; Smith, 1938; Smith, 1939 (B 910-A); Smith, 1939 (B 917-A); Smith, 1941; Smith, 1942; Anderson, 1947; Wedow and others, 1952; Gault and others, 1953; Cass, 1959; Cobb, 1972 (MF 389); Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-866); Bundtzen and others, 1990; Bundtzen and others, 1992.

Primary reference: Harrington, 1919

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Bear Gulch

Site type: Mine

ARDF no.: CA006

Latitude: 65.35 **Quadrangle:** CA B-5

Longitude: 161.33

Location description and accuracy:
This placer mine is near the forks of Bear Gulch, an eastward-flowing, informally named, tributary of Sweepstakes Creek that drains the northeast flank of Bear Mountain. The site is in section 3, T. 2 S., R. 13 W., of the Kateel River Meridian. Cobb,1972 (MF-389), location 42.

Commodities:

Main: Au, Pt

Other:

Ore minerals: Gold, platinum

Gangue minerals:

Geologic description:
Bedrock is Jurassic andesite tuffs and flows. Placer gold was reported to have been mined near the forks. Some platinum was also recovered from the placer (Harrington, 1919; Gault and others, 1953).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au-PGE (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:
Small scale placer mining.

Production notes:

Reserves:

Additional comments:
Stream gradient approximately 100 feet per mile.

References:
Harrington, 1919; Gault and others, 1953; Cobb, 1972 (MF 389); Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-866).

Primary reference: Cobb, 1976 (OFR 76-866)

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Rube Creek

Site type: Mine

ARDF no.: CA007

Latitude: 65.36 **Quadrangle:** CA B-5

Longitude: 161.06

Location description and accuracy:
This placer mine is on lower Rube Creek in section 35, T. 1 S., R. 12 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 38.

Commodities:

Main: Au

Other: Pt?, U

Ore minerals: Gold, platinum?

Gangue minerals: Chrome spinel, black garnet (melanite), hematite, zircon

Geologic description:
Small-scale placer mining was done on lower Rube Creek in the early 1900's. Gold is concentrated on clay-rich, false bedrock and in the overlying 2 to 3 feet of gravel. Overburden is a variable thickness of barren gravel and sand and two feet or more of muck. A report of platinum is not verified. The heavy mineral concentrates include an unusual amount of black garnet (Harrington, 1919).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au-PGE (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:

Small-scale placer mining was done on lower Rube Creek in the early 1900's. In 1945 the U.S. Geological Survey sampled the placer to evaluate its radioactive mineral potential. The site of old placer workings could not be found at that time. Little mining was done after the stampede in the early 1900's.

Production notes:

Reserves:

Additional comments:

Stream gradient approximately 100 feet per mile in lower mile of creek.

References:

Harrington, 1919; Anderson, 1947; Gault and others, 1953; Cass, 1959; Cobb, 1972 (MF 389); Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-866).

Primary reference: Harrington, 1919; Gault and others, 1953

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Spring Creek

Site type: Prospect

ARDF no.: CA008

Latitude: 65.37 **Quadrangle:** CA B-5

Longitude: 161.24

Location description and accuracy:
This placer prospect is about 3 miles above the mouth of Spring Creek, and about 1 mile below a hot spring. The site is in section 25, T. 1 S., R. 13 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 43.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
Spring Creek heads in the Late Cretaceous Granite Mountain monzonite pluton and flows across its contact with Jurassic-Cretaceous andesitic volcanic rocks. Placer gold reportedly was mined about a mile below a hot spring. Depth to bedrock at the mouth of creek is about 10 feet. Some of the bench placer ground is 12 feet deep.

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au-PGE (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined

Site Status: Inactive

Workings/exploration:

In 1947 the U.S. Geological Survey sampled the placer to evaluate its radioactive mineral potential. There was little sign of active mining at that time.

Production notes:

Reserves:

Additional comments:

Stream gradient approximately 150 feet per mile.

References:

Gault and others, 1953; Cobb, 1972 (MF 389); Cobb, 1976 (OFR 76-866).

Primary reference: Gault and others, 1953

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Anzac Creek

Site type: Occurrence

ARDF no.: CA009

Latitude: 65.38 **Quadrangle:** CA B-5

Longitude: 161.06

Location description and accuracy:
This placer occurrence is near the intersection of Anzac Creek and the tractor trail marked on the Candle B-5 quadrangle. The site is about 0.6 mile above the mouth of the creek, in section 23, T. 1 S., R. 12 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 37.

Commodities:

Main: Radioactive minerals

Other:

Ore minerals: Uranothorianite

Gangue minerals:

Geologic description:
A sample of concentrate collected from a gravel bar contained 0.033% eU, of which 0.016% was uranium (Gault and others, 1953).

Alteration:

Age of mineralization:

Deposit model:
Radioactive minerals in stream sediments.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Inactive

Workings/exploration:
Pan concentrate samples were collected from a gravel bar in 1947 by the U.S. Geologi-

cal Survey (Gault and others, 1953).

Production notes:

Reserves:

Additional comments:
Stream gradient approximately 100 feet per mile.

References:
Gault and others, 1953; Cobb, 1972 (MF 389); Cobb, 1976 (OFR 76-866).

Primary reference: Gault and others, 1953

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Boulder Creek

Site type: Prospect

ARDF no.: CA010

Latitude: 65.39 **Quadrangle:** CA B-5

Longitude: 161.06

Location description and accuracy:
This placer prospect is on Boulder Creek near the intersection of a tractor trail marked on Candle B-5 quadrangle. The site is about a mile above the mouth of the creek, in section 23, T. 1 S., R. 12 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 36.

Commodities:

Main: Radioactive minerals

Other: Au?

Ore minerals: Gold?, uranothorianite

Gangue minerals:

Geologic description:
Stream and bench gravels have been prospected or placer mined for gold. In 1947, uranothorianite was collected from concentrate samples (Gault and others, 1953).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au-PGE (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined

Site Status: Inactive

Workings/exploration:

Pan concentrate samples collected and analyzed for uranium content by U.S. Geological Survey (Gault and others, 1953).

Production notes:

Reserves:

Additional comments:

Stream gradient approximately 100 feet per cubic mile.

References:

Gault and others, 1953; Cobb, 1972 (MF 389); Cobb, 1976 (OFR 76-866).

Primary reference: Gault and others, 1953

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Unnamed (at south end of Gossan Ridge)

Site type: Occurrence

ARDF no.: CA011

Latitude: 65.42 **Quadrangle:** CA B-5

Longitude: 161.35

Location description and accuracy:
This occurrence is at an elevation of about 700 feet on the south end of Gossan Ridge. The site is in section 9, T. 1 S., R. 13 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 13, and Miller and Elliott (1969), figure 2, sample location 45.

Commodities:

Main: Ag, Pb, Zn

Other:

Ore minerals: Argentiferous galena, arsenopyrite, pyrite, sphalerite

Gangue minerals: Carbonates, quartz

Geologic description:
This occurrence is located adjacent to the mid-Cretaceous Quartz Creek pluton, a hook-shaped, quartz monzonite body. The pluton is surrounded by a N 15 W-trending alteration zone about 18 miles long and 2 to 5 miles wide. The alteration zone is in Jurassic-Cretaceous andesitic volcanic rocks, and is marked by oxidation, quartz-carbonate replacement, and tourmaline. Fine-grained dikes of varying composition cut the andesites near the pluton. Dikes near the Quartz Creek pluton locally contain sulfide minerals. Talus from the area contained disseminated galena in oxidized quartz-carbonate rock. A sample of the talus contained 1500 ppm As, 0.04 ppm Au, 300 ppm Cu, and 150 ppm Pb. Another grab sample contained 3,000 ppm Cr, 7,000 ppm Pb, and 10,000 ppm Zn (Miller and Elliott, 1969).

Alteration:
Oxidation, quartz-carbonate replacement, and tourmaline.

Age of mineralization:
Quaternary.

Deposit model:
Sulfides in altered andesite.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Inactive

Workings/exploration:

The area was discovered by the U.S. Geological Survey in the late 1960's (Miller and Elliott, 1969). It has has been mapped and examined by the U.S. Geological Survey and by various exploration companies. Numerous occurrences of argentiferous galena, sphalerite, pyrite and arsenopyrite occur in an 18 mile long, 2- to 5-mile-wide altered zone surrounding the Quartz Creek quartz monzonite pluton. The alteration of the andesite trends N 15 W across the drainage basins of Quartz Creek and the Kiwalik River.

Production notes:

Reserves:

Additional comments:

References:

Miller and Elliott, 1969; Cobb, 1972 (MF 389); Cobb, 1976 (OFR 76-866).

Primary reference: Miller and Elliott,1969

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Rock Creek

Site type: Prospect

ARDF no.: CA012

Latitude: 65.41 **Quadrangle:** CA B-5

Longitude: 161.05

Location description and accuracy:
This placer prospect is near the intersection of Rock Creek and a tractor trail marked on the Candle B-5 map. The site is about a mile above the mouth of the creek, in section 12, T. 1 S., R. 12 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 35.

Commodities:

Main: Radioactive minerals

Other: Au?

Ore minerals: Gold?, uranothorianite

Gangue minerals:

Geologic description:
Rock Creek probably was prospected for placer gold in the early 1900s. Uranothorianite was identified in placer concentrates collected in 1947 by the U.S. Geological Survey (Gault and others, 1953).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Radioactive minerals in stream sediments.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: Undetermined

Site Status: Inactive

Workings/exploration:

In 1947 the U. S. Geological Survey sampled the placer to evaluate its radioactive mineral potential (Gault and others, 1953).

Production notes:

Reserves:

Additional comments:
Stream gradient approximately 100 feet per mile.

References:
Gault and others, 1953; Cobb, 1972 (MF 389); Cobb, 1976 (OFR 76-866).

Primary reference: Gault and others, 1953

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Unnamed (upper Peace River)

Site type: Occurrence

ARDF no.: CA013

Latitude: 65.453 **Quadrangle:** CA B-5

Longitude: 161.079

Location description and accuracy:

This occurrence is at an elevation of about 750 feet in the headwaters of Peace River. The site is in the SW1/4 of section 25, T. 1 N., R. 12 W., of the Kateel River Meridian. Miller and Elliot (1969), figure 7, location 3 and Cobb, 1972 (MF-389), locations 16 and 34.

Commodities:

Main: Ag, Au, Cu, Mo, Pb, W

Other: Bi, Cr, radioactive minerals, Zn

Ore minerals: Argentiferous galena, chalcopyrite, chromite, gold, molybdenite, pyrite, scheelite, sphalerite, uranothorianite

Gangue minerals: Fluorite, hematite, magnetite, quartz

Geologic description:

The upper Peace River area is underlain by a small satellitic stock of the Late Cretaceous Granite Mountain pluton. The stock is composed of several varieties of syenite. Locally the syenite is cut by quartz veins and contains abundant disseminated pyrite cubes, some fine-grained molybdenite, and abundant magnetite and purple fluorite. A canary-yellow alteration product found both in the veins and in the syenites was identified as ferromolybdenite. The syenite is bleached, oxidized and contains disseminated pyrite, and where it is cut by quartz-pyrite veins, occasional molybdenite. The syenite and associated quartz veins locally contain anomalous amounts of molybdenum, bismuth, silver, copper and lead. Numerous rock and soil samples were collected from this area by Miller and Elliott (1969). One rock sample (location 3) contained: 150 ppm Ag, 30 ppm Mo, 3,000 ppm Pb, 700 ppm Cu, and 0.04 ppm Au. Another rock sample (location 6) contained: 1.5 ppm Ag, greater than 2,000 ppm Mo, 500 ppm Cu, and 300 ppm Pb. Both were grab samples of oxidized syenite.

Gault and others (1953) collected pan concentrate stream-sediment samples from this area in their search for uranium. Their samples contained anomalously high concentrations of uranothorianite and other metallic minerals, including galena, chalcopyrite, bornite, tetradymite, sphalerite, pyrite, and pyrrhotite. Intergrowths of galena, sphalerite,

chalcopyrite, pyrite, and gummite were observed in some mineral grains. The mineral associations suggest that the uranium minerals are derived from a sulfide-bearing lode (or vein), rather than occurring as accessory minerals within granitic rocks.

Alteration:
Syenite oxidized where cut by pyrite-quartz veins.

Age of mineralization:
Late Cretaceous.

Deposit model:
Polymetallic sulfides associated with small syenite stocks.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Inactive

Workings/exploration:
The area has been mapped by the U.S. Geological Survey and examined by various exploration companies.

Production notes:

Reserves:

Additional comments:

References:
Wedow and others, 1952; White and others, 1952; Gault and others, 1953; Jones, 1953; Cass, 1959; Berg and Cobb, 1967; Miller and Elliott, 1969; Cobb, 1972 (MF 389); Cobb, 1973 (B 1374); Cobb, 1975 (MR-66); Cobb, 1976 (OFR 76-866).

Primary reference: Miller and Elliott, 1969

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Unnamed (on Weather Ridge)

Site type: Occurrence

ARDF no.: CA014

Latitude: 65.461 **Quadrangle:** CA B-5

Longitude: 161.398

Location description and accuracy:
This occurrence is at an elevation of about 1,450 feet at the southeast end of Weather Ridge. This site is in section 28, T. 1 N., R. 13 W., of the Kateel River Meridian. The location is accurate to within 0.3 mile radius. Cobb, 1972 (MF-389), location 11; Miller and Elliott (1969), sample location 34, figure 2.

Commodities:

Main: Ag, Pb, Zn

Other: Au, Cu

Ore minerals: Argentiferous galena, chalcopyrite, gold, pyrite, sphalerite

Gangue minerals: Quartz, tourmaline?

Geologic description:
This occurrence is located adjacent to the mid-Cretaceous Quartz Creek pluton, a hook-shaped, quartz monzonite body. The pluton is surrounded by a N 15 W-trending alteration zone about 18 miles long and 2 to 5 miles wide. The alteration zone is in Jurassic-Cretaceous andesitic volcanic rocks and is marked by quartz veins and possibly tourmaline. Fine-grained dikes of varying composition cut the andesites near the pluton. Dikes near the Quartz Creek pluton are locally mineralized. At this occurrence, galena, sphalerite, and pyrite are disseminated in quartz veins cutting altered andesite. A sample of a sulfide-bearing quartz vein (Miller and Elliott, 1969, location 34) contained: 150 ppm Ag (4.35 ounces Ag per ton), greater than 2% Pb, greater than 1% Zn, trace Au, and 500 ppm Cu.

Alteration:
Quartz and tourmaline?

Age of mineralization:
Mid-Cretaceous or younger.

Deposit model:

Sulfides in altered andesite.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Inactive

Workings/exploration:

The area was first identified and mapped by the U.S. Geological Survey in the late 1960's (Miller and Elliott, 1969). It subsequently has been examined by various exploration companies. In the mid 1970's an exploration program including some drilling was completed by Greatland Exploration, Anchorage, Alaska.

Production notes:

Reserves:

Additional comments:

This site is one of numerous occurrences of argentiferous galena, sphalerite, pyrite, and arsenopyrite in an 18-mile-long, 2- to 5-mile-wide altered zone in andesite surrounding the hook-shaped Quartz Creek quartz monzonite pluton. The alteration zone extends N 15 W across the drainage basins of Quartz Creek and the Kiwalik River.

References:

Miller and Elliott, 1969; Cobb, 1972 (MF 389); Cobb, 1976 (OFR 76-866).

Primary reference: Miller and Elliott, 1969

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Unnamed (head of Kiwalik River)

Site type: Occurrence

ARDF no.: CA015

Latitude: 65.46 **Quadrangle:** CA B-5

Longitude: 161.31

Location description and accuracy:
The occurrence is at an elevation of about 1,000 feet on upper Kiwalik River. The site is in section 26, T. 1 N., R. 13 W., of the Kateel River Meridian. Cobb, 1972 (MF 389), location 12, and Miller and Elliott (1969), sample location 35, figure 2.

Commodities:

Main: Ag, Cu, Pb, Zn

Other:

Ore minerals: Argentiferous galena, chalcopyrite, sphalerite

Gangue minerals: Carbonates, quartz

Geologic description:
This occurrence is located adjacent to the mid-Cretaceous Quartz Creek pluton, a hook-shaped, quartz monzonite body. The pluton is surrounded by a N 15 W-trending alteration zone about 18 miles long and 2 to 5 miles wide. The alteration zone is in Jurassic-Cretaceous andesitic volcanic rocks, and is marked by carbonate-quartz replacement, and tourmaline. Fine-grained dikes of varying composition cut the andesites near the pluton. Dikes near the Quartz Creek pluton are locally mineralized. At this occurrence disseminated galena occurs in oxidized carbonate-quartz rock.
Analytical results from a composite grab sample were: 3 ppm Ag, 500 ppm Cu, greater than 2% Pb, and greater than 1% Zn (Miller and Elliott, 1969, number 35).

Alteration:
Oxidation, carbonate replacement, and tourmaline.

Age of mineralization:
Mid-Cretaceous or younger.

Deposit model:
Sulfides in altered andesite.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Inactive

Workings/exploration:

The area has been mapped by the U.S. Geological Survey and examined by various exploration companies.

Production notes:

Reserves:

Additional comments:

This site is one of numerous occurrences of argentiferous galena, sphalerite, pyrite, and arsenopyrite in an 18-mile-long, 2- to 5-mile-wide zone of altered andesite surrounding the Quartz Creek quartz monzonite pluton. The altered zone trends N 15 W, across the drainage basins of Quartz Creek and the Kiwalik River.

References:

Miller and Elliott, 1969; Cobb, 1972 (MF 389); Cobb, 1976 (OFR 76-866).

Primary reference: Miller and Elliott, 1969

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Unnamed (at head of Quartz Creek)

Site type: Occurrence

ARDF no.: CA016

Latitude: 65.47 **Quadrangle:** CA B-5

Longitude: 161.36

Location description and accuracy:
This occurrence is at an elevation of about 1,250 feet on a ridge between the headwaters of Kiwalik River and Quartz Creek. The site is in section 22, T. 1 N., R. 13 W., of the Kateel River Meridian. Miller and Elliot (1969), figure 2, location 31.

Commodities:

Main: Ag, Pb, Zn

Other:

Ore minerals: Argentiferous galena, arsenopyrite, pyrite, sphalerite

Gangue minerals: Calcite, tourmaline

Geologic description:
This occurrence consists of galena-bearing, carbonate-rich gossan in altered Jurassic-Cretaceous andesite near the contact with quartz monzonite of the Cretaceous Quartz Creek pluton. The altered zone is marked by quartz-calcite replacement, and tourmaline (also see Additional comments). A grab sample of gossan gave the following results: 300 ppm Ag, 5,000 ppm As, greater than 500 ppm Cd, 200 ppm Cu, greater than 2% Pb, and greater than 1% Zn (Miller and Elliot, 1969, location 31).

Alteration:
Oxidation, carbonate replacement, and tourmaline.

Age of mineralization:
Late Cretaceous.

Deposit model:
Sulfides in altered andesite.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Inactive

Workings/exploration:
The area has been mapped by the U.S. Geological Survey and examined by various exploration companies.

Production notes:

Reserves:

Additional comments:
This site is one of numerous occurrences of argentiferous galena, sphalerite, pyrite, and arsenopyrite in altered andesite adjacent to quartz monzonite of the Quartz Creek pluton. The altered zone is 18 miles long and 2 to 5 miles wide. It trends N 15 W, across the drainage basins of Quartz Creek and Kiwalik River and is parallel to prominent lineaments in the area.

References:
Miller and Elliott, 1969.

Primary reference: Miller and Elliott, 1969

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Syenite Gulch

Site type: Occurrence

ARDF no.: CA017

Latitude: 65.48 **Quadrangle:** CA B-5

Longitude: 161.23

Location description and accuracy:
This occurrence is at an elevation of about 1,600 feet, approximately 2.5 miles north of Granite Mountain. The site is in section 19, T. 1 N., R. 12 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 33.

Commodities:

Main: Radioactive minerals

Other:

Ore minerals: Thorite?, uranothorianite

Gangue minerals:

Geologic description:
At this occurrence, uranothoriate and thorite(?) occur in stream sediments overlying monzonite or syenite of the Late Cretaceous Granite Mountain pluton (Gault and others, 1953). Samples from prospect pits indicate that the amount of radioactivity decreases with depth. The highest equivalent uranium value from the samples was 0.088%.

Alteration:

Age of mineralization:
Late Cretaceous.

Deposit model:
Radioactive minerals in stream sediments.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Inactive

Workings/exploration:

In 1947, the U.S. Geological Survey sampled the creek to evaluate the radioactive mineral potential.

Production notes:

Reserves:

Additional comments:

Stream gradient over 200 feet per mile.

References:

Gault and others, 1953; Cobb, 1972 (MF 389); Cobb, 1976 (OFR 76-866).

Primary reference: Gault and others, 1953

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Unnamed (north of Kiwalik River)

Site type: Occurrence

ARDF no.: CA018

Latitude: 65.45 **Quadrangle:** CA B-5

Longitude: 161.46

Location description and accuracy:
The occurrence is located 35 miles southeast of Candle and 1.9 miles southwest of peak 1680 on Weather Ridge. This is in section 25, T. 1 N., R. 14 W., of the Kateel River Meridian. Miller and Elliot (1969), figure 2, sample location 37.

Commodities:

Main: Au

Other:

Ore minerals: Arsenopyrite?, gold, pyrite?

Gangue minerals: Tourmaline?

Geologic description:
This occurrence is located adjacent to the mid-Cretaceous Quartz Creek quartz monzonite, a hook-shaped pluton that intrudes Jurassic-Cretaceous andesitic volcanic rocks. The pluton is surrounded by a N 15 W-trending alteration zone about 18 miles long and 2 to 5 miles wide. The altered volcanic rocks are marked by carbonate-quartz replacement, and possibly by tourmaline. A sample of gossan at the contact between quartz monzonite and andesite contained 1 ppm Au, 3,000 ppm As, 300 ppm Cu and 150 ppm Pb (Miller and Elliott, 1969, location 37).

Alteration:
Carbonate-quartz replacement and tourmaline?

Age of mineralization:
Mid-Cretaceous or younger.

Deposit model:
Sulfides in altered andesite.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Inactive

Workings/exploration:

The area has been mapped by the U.S. Geological Survey and examined by various exploration companies.

Production notes:

Reserves:

Additional comments:

This site is one of numerous occurrences of argentiferous galena, sphalerite, pyrite and arsenopyrite in an 18-mile-long, 2- to 5-mile-wide zone of altered andesite surrounding the Quartz Creek quartz monzonite pluton. The altered zone trends N 15 W, across the drainage basins of Quartz Creek and the Kiwalik River.

References:

Miller and Elliott, 1969.

Primary reference: Miller and Elliott, 1969

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Unnamed (near Kiwalik River)

Site type: Occurrence

ARDF no.: CA019

Latitude: 65.47 **Quadrangle:** CA B-5

Longitude: 161.48

Location description and accuracy:
Occurrence is 0.1 mile southwest of peak 1380 on Weather Ridge. The site is in section 24, T. 1 N., R. 14 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 6, and Miller and Elliott (1969), figure 2, sample location 36.

Commodities:

Main: W

Other: Cu, Pb

Ore minerals: Pyrite, scheelite

Gangue minerals: Quartz, tourmaline

Geologic description:
This occurrence is located adjacent to the mid-Cretaceous Quartz Creek pluton, a hook-shaped, quartz monzonite body. The pluton is surrounded by a N 15 W-trending alteration zone about 18 miles long and 2 to 5 miles wide. The alteration zone is in Jurassic-Cretaceous andesitic volcanic rocks, and is marked by carbonate-quartz replacement, and tourmaline. Fine-grained dikes of varying composition cut the andesites near the pluton. Dikes near the Quartz Creek pluton are locally mineralized. At this occurrence, disseminated scheelite occurs in pyrite-tourmaline-quartz vein material in frost-riven rubble near the contact between andesite and quartz monzonite. A grab sample from location 36 contained 500 ppm Cu, 150 ppm Pb, and greater than 1% W (Miller and Elliott, 1969).

Alteration:
Tourmaline alteration along closely spaced fractures.

Age of mineralization:
Mid-Cretaceous or younger.

Deposit model:
Scheelite in pyrite-tourmaline-quartz veins.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Inactive

Workings/exploration:

The area has been mapped by the U.S. Geological Survey and examined by various exploration companies.

Production notes:

Reserves:

Additional comments:

This site is one of numerous occurrences of argentiferous galena, sphalerite, pyrite and arsenopyrite in an 18-mile-long, 2- to 5-mile-wide zone of altered andesite surrounding the Quartz Creek quartz monzonite pluton. The altered zone trends N 15 W, across the drainage basins of Quartz Creek and the Kiwalik River.

References:

Miller and Elliott, 1969; Cobb, 1972 (MF 389); Cobb, 1975 (MR-66); Cobb, 1976 (OFR 76-866).

Primary reference: Miller and Elliott, 1969

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Unnamed (in divide at head of Quartz Creek)

Site type: Occurrence

ARDF no.: CA020

Latitude: 65.49 **Quadrangle:** CA B-5

Longitude: 161.34

Location description and accuracy:
This occurrence is at an elevation of about 1,250 feet near the divide at the head of Quartz Creek. The site is in section 15, T. 1 N., R. 13 W., of the Kateel River Meridian. Miller and Elliott (1969), figure 2, location 27.

Commodities:

Main: Ag, Pb, Zn

Other:

Ore minerals: Argentiferous galena, pyrite, sphalerite

Gangue minerals: Calcite, tourmaline

Geologic description:
This occurrence is located adjacent to the mid-Cretaceous Quartz Creek pluton, a hook-shaped, quartz monzonite body. The pluton is surrounded by a N 15 W-trending alteration zone about 18 miles long and 2 to 5 miles wide. The alteration zone is in Jurassic-Cretaceous andesitic volcanic rocks, and is marked by carbonate-quartz replacement, and tourmaline. Fine-grained dikes of varying composition cut the andesites near the pluton. Dikes near the Quartz Creek pluton are locally mineralized. This occurrence is a sulfide-bearing, oxidized carbonate zone in altered andesite. A composite grab sample contained: 200 ppm Ag (5.8 ounces Ag per ton), greater than 500 ppm Cd, 200 ppm Cu, greater than 2% Pb, and greater than 1% Zn (Miller and Elliott, 1969, location 27).

Alteration:
Carbonate-quartz replacement and tourmaline.

Age of mineralization:
Late Cretaceous.

Deposit model:
Sulfides in altered andesite.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Inactive

Workings/exploration:

The area has been mapped by the U.S. Geological Survey and examined by various exploration companies.

Production notes:

Reserves:

Additional comments:

This site is one of numerous occurrences of argentiferous galena, sphalerite, pyrite and arsenopyrite in an 18-mile-long, 2- to 5-mile-wide zone of altered andesite surrounding the Quartz Creek quartz monzonite pluton. The altered zone trends N 15 W, across the drainage basins of Quartz Creek and the Kiwalik River, parallel to prominent lineaments in the area.

References:

Miller and Elliott, 1969.

Primary reference: Miller and Elliott, 1969

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Unnamed (headwaters of Quartz Creek)

Site type: Occurrence

ARDF no.: CA021

Latitude: 65.49 **Quadrangle:** CA B-5

Longitude: 161.39

Location description and accuracy:
This occurrence is at an elevation of about 800 feet near the headwaters of Quartz Creek. The site is in section 25, T. 1 N., R. 13 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 10, and Miller and Elliott (1969), figure 2, sample locations 24, 25, and 26.

Commodities:

Main: Ag, Pb, Zn

Other: Cu

Ore minerals: Arsenopyrite, chalcopyrite, galena, pyrite, sphalerite

Gangue minerals: Calcite, quartz, tourmaline

Geologic description:
This occurrence is located adjacent to the mid-Cretaceous Quartz Creek pluton, a hook-shaped, quartz monzonite body. The pluton is surrounded by a N 15 W-trending alteration zone about 18 miles long and 2 to 5 miles wide. The alteration zone is in Jurassic-Cretaceous andesitic volcanic rocks, and is marked by carbonate-quartz replacement, and tourmaline. Fine-grained dikes of varying composition cut the andesites near the pluton. Dikes near the Quartz Creek pluton are locally mineralized. This occurrence consists of a galena-bearing calcite vein 18 inches thick in altered quartz monzonite. The altered quartz monzonite consists of quartz-carbonate-sericite rock containing disseminated pyrite, arsenopyrite, galena, sphalerite, and tourmaline. A composite grab sample contained 44 ppm Ag, 2.25% Pb, and 4.67% Zn (Miller and Elliott, 1969).

Alteration:
Tourmaline and sericite alteration along closely spaced fractures; quartz-carbonate replacement.

Age of mineralization:
Late Cretaceous.

Deposit model:
Sulfides in altered quartz monzonite.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Inactive

Workings/exploration:
The area has been mapped and examined by the U.S. Geological Survey and by various exploration companies.

Production notes:

Reserves:

Additional comments:
This site is one of numerous occurrences of argentiferous galena, sphalerite, pyrite and arsenopyrite in an 18-mile-long, 2- to 5-mile-wide zone of altered andesite surrounding the Quartz Creek quartz monzonite pluton. The altered zone trends N 15 W, across the drainage basins of Quartz Creek and the Kiwalik River, parallel to prominent lineaments in the area.

References:
Miller and Elliott, 1969; Cobb, 1972 (MF 389); Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-866).

Primary reference: Miller and Elliott, 1969

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Unnamed (on Weather Ridge)

Site type: Occurrence

ARDF no.: CA022

Latitude: 65.49 **Quadrangle:** CA B-5

Longitude: 161.44

Location description and accuracy:
This occurrence is at an elevation of about 1,750 feet, 0.2 miles southeast of point 1453 on Weather Ridge. The site is in section 18, T. 1 N., R. 13 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 9, and Miller and Elliott (1969), figure 2, sample location 22.

Commodities:

Main: Ag, Pb

Other:

Ore minerals: Argentiferous galena

Gangue minerals: Calcite, quartz, tourmaline

Geologic description:
This occurrence consists of a galena-bearing calcite vein 1 foot thick that cuts Jurassic-Cretaceous altered andesitic volcanic rocks near the contact with quartz monzonite of the Late Cretaceous Quartz Creek pluton. The alteration is marked by quartz-carbonate replacement, and tourmaline (also see Additional comments). A grab sample of the vein contained: 20 ppm Ag, 200 ppm Cu, 1.5% Pb, and 700 ppm Zn (Miller and Elliott, 1969).

Alteration:
Quartz-carbonate replacement and tourmaline.

Age of mineralization:
Late Cretaceous.

Deposit model:
Sulfides in altered quartz monzonite.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Inactive

Workings/exploration:

The area has been mapped and examined by the U.S. Geological Survey and by various exploration companies.

Production notes:

Reserves:

Additional comments:

This site is one of numerous occurrences of argentiferous galena, sphalerite, pyrite and arsenopyrite in an 18-mile-long, 2- to 5-mile-wide zone of altered andesite surrounding the Quartz Creek quartz monzonite pluton. The altered zone trends N 15 W, across the drainage basins of Quartz Creek and the Kiwalik River, parallel to prominent lineaments in the area.

References:

Miller and Elliott, 1969; Cobb, 1972 (MF 389); Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-866).

Primary reference: Miller and Elliott, 1969

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Quartz Creek; Jack

Site type: Mine

ARDF no.: CA023

Latitude: 65.51 **Quadrangle:** CA C-5

Longitude: 161.33

Location description and accuracy:
The Jack placer mine is at an elevation of about 850 feet on a west-flowing tributary to the south fork of Quartz Creek. The map site is in section 11, T. 1 N., R. 13 W., of the Kateel River Meridian, and the coordinates are for the approximate midpoint of the placer ground. Cobb, 1972 (MF-389), location 32.

Commodities:

Main: Au

Other: Ag, Pb, Pt, W, Zn

Ore minerals: Gold, platinum

Gangue minerals:

Geologic description:
Quartz Creek heads in syenite of the Late Cretaceous, Granite Mountain pluton. Bedrock at the Jack placer mine is syenite and Jurassic-Cretaceous andesite. Fragments of narrow quartz veins and pegmatites occur in the placer. Placer gold is concentrated in the stream for approximately 1 mile. Some platinum has been recovered with the gold. Heavy minerals collected from stream gravels over syenite bedrock contained sphene, melanite, magnetite, hornblende, zircon, thorite and uranothorite. Samples collected over andesite bedrock contained hornblende, magnetite, ilmenite, spinel, and hematite (Gault and others, 1953).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au-PGE (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

39a

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:
Stream gradient approximately 100 feet per mile.

References:
Smith, 1930 (B 810); Smith, 1930 (B 813); Smith, 1932; Smith, 1933 (B 836); Smith, 1933 (B 844-A); Smith, 1934 (B 857-A); Smith, 1934 (B 864-A); Smith, 1936; Smith, 1937; Smith, 1938; Smith, 1939 (B 910-A); Smith, 1939 (B 917-A); Smith, 1941; Smith, 1942; Anderson, 1947; Gault and others, 1953; Cass, 1959; Miller and Elliott, 1969; Cobb, 1972 (MF 389); Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-866).

Primary reference: Gault and others, 1953

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Cub Creek

Site type: Mine

ARDF no.: CA024

Latitude: 65.51 **Quadrangle:** CA C-5

Longitude: 161.03

Location description and accuracy:
The Cub Creek placer mine is along lower Cub Creek, a tributary to Bear Creek. The map site is in section 6, T. 1 N., R. 11 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 31.

Commodities:

Main: Au

Other: Radioactive minerals

Ore minerals: Gold, pyrite, uranothorianite

Gangue minerals: Magnetite

Geologic description:
Bedrock in the general area of the Cub Creek mine includes syenite of the Late Cretaceous Granite Mountain pluton, and, in the lower portion of the creek, Jurassic-Cretaceous andesite and greenstone. Creek boulders are largely syenite, monzonite, or diorite. The deposit is a gold placer; gold is distributed through 2 feet of gravel overlying bedrock. The gold is fine and flaky and assays $19.20 per ounce (gold at $20.67/ounce) (Harrington, 1919). Concentrates contain a little pyrite and abundant magnetite (Moffit, 1905). Gault and others (1953) found uranothorianite in the placer concentrates on Cub Creek and its headwaters.

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au-PGE (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:
Some prospecting cuts were made in 1964, but there was no mining at that time.

Production notes:

Reserves:

Additional comments:
Stream gradient 50 to 75 feet per mile.

References:
Moffit, 1904; Moffit, 1905; Henshaw, 1909; Smith and Eakin, 1910; Smith and Eakin, 1911; Harrington, 1919; Gault and others, 1953; Cass, 1959; Herreid, 1965; Cobb, 1972 (MF 389); Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-866).

Primary reference: Harrington, 1919; Gault and others, 1953

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Unnamed (on south fork of Quartz Creek)

Site type: Occurrences

ARDF no.: CA025

Latitude: 65.52 **Quadrangle:** CA C-5

Longitude: 161.39

Location description and accuracy:
This site represents several occurrences in a 1.5-mile-long area along the south fork of Quartz Creek. The map site is in the center of the area, in section 5, T. 1 N., R. 13 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), locations 5, 6, and 7, and Miller and Elliott (1969), figure 2, locations 11, 12, 18, 19, 20, and 21.

Commodities:

Main: Ag, Pb, Zn

Other: Au, Cu

Ore minerals: Argentiferous galena, arsenopyrite, chalcopyrite, gold, pyrite, sphalerite

Gangue minerals: Calcite, feldspar, quartz, tourmaline

Geologic description:
The hook-shaped, Late Cretaceous Quartz Creek quartz monzonite pluton is surrounded by a quartz-sericite-tourmaline altered zone in Jurassic-Cretaceous andesitic volcanic rocks. Sulfide-bearing tourmaline-quartz rock in altered quartz monzonite contains disseminated grains and masses of galena, sphalerite, pyrite, and arsenopyrite. Several gossans up to 4 feet wide in the quartz monzonite contain visible galena. Calcite veins cutting a fine-grained felsic intrusion contain pyrite, galena, and sphalerite. The following analytical results are from Miller and Elliott (1969). Location 11: 7 ppm Ag, greater than 1% As, 500 ppm Co, 300 ppm Cu, 1% Pb, and 200 ppm Zn. Location 12: 7 ppm Ag, greater than 1% As, 300 ppm Cr, 150 ppm Cu, 0.7% Pb, and 700 ppm Zn. Location 18C: 50 ppm Ag, greater than 500 ppm Cd, 2,000 ppm Cu, greater than 2% Pb, and greater than 1% Zn. Locations 19 A and B: up to 200 ppm Ag (5.8 ounces Ag per ton), up to 300 ppm Cd, up to 1,000 ppm Cu, greater than 2% Pb, and greater than 1% Zn. Location 21: 150 ppm Ag, 700 ppm Cu, 15 ppm Mo, greater than 2% Pb, and greater than 1% Zn.

Alteration:
Quartz, tourmaline, and sericite alteration along closely-spaced fracture zones.

Age of mineralization:

Late Cretaceous.

Deposit model:
Sulfides in altered quartz monzonite and andesite.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Inactive

Workings/exploration:
The area has been mapped and examined by the U.S. Geological Survey and various exploration companies.

Production notes:

Reserves:

Additional comments:
This site is one of numerous occurrences of argentiferous galena, sphalerite, pyrite and arsenopyrite in an 18-mile-long, 2- to 5-mile-wide zone of altered andesite surrounding the Quartz Creek quartz monzonite pluton. The altered zone trends N 15 W, across the drainage basins of Quartz Creek and the Kiwalik River, parallel to prominent lineaments in the area.

References:
Miller and Elliott, 1969; Cobb, 1972 (MF 389); Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-866).

Primary reference: Miller and Elliott, 1969

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Bear Creek

Site type: Mine

ARDF no.: CA026

Latitude: 65.55 **Quadrangle:** CA C-5

Longitude: 161.08

Location description and accuracy:
The Bear Creek placer mine is along about a mile of Bear Creek between Polar and Bob Creek. The coordinates are for the camp at the junction of Split Creek, on the boundary of sections 23 and 24, T. 2 N., R. 12 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), locations 29 and 30. Also see Additional comments.

Commodities:

Main: Au

Other: Ag, Ir, Os, Pb, Pd, Pt, Rh, Ru, Zn

Ore minerals: Gold, platinum, pyrite

Gangue minerals:

Geologic description:
Bedrock in the mine area is predominately altered, Jurassic andesitic tuff and greenstone which are cut by mafic and felsic dikes. Quartz and calcite veins carry disseminated sulfides. Breccia zones in greenstones also carry disseminated sulfides and have a thin, oxidized cap which carries some gold. Abundant heavy, red, cherty rock in the placer concentrate occurs as crosscutting veins and irregular masses in greenstone. At the Bear Creek gold placer flaky gold and platinum occur on bedrock or in cracks in upper several inches of bedrock. During mining bedrock must be thoroughly cleaned since much of the gold is close to or in cracks in bedrock. The bedrock surface is very irregular. Concentrates contained gold, platinum, magnetite, hematite, pyrite, garnet and chrome spinel (Harrington, 1919). The gold was flaky and worth $19.20 per ounce in 1905. Analysis of platinum minerals from placer concentrate gave the following results: 72.82% Pt; 15.58% Ir, 8.17% Os, 2.29% Ru, 0.78% Rh, and 0.36% Pd (Moffit, 1905).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au-PGE (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:
Small-scale placer mining has been done on Bear Creek since the early 1900s, continuing intermittently until at least the 1960's. Most of the mining has been above and below Split Creek (Herreid, 1965).

Production notes:

Reserves:

Additional comments:
Some of the names associated with early mining claims are: Douglass and Edwards, Douglass and Milligrock, Hoxie, Tendness and Barr, Porter, and Wright. Prospecting work was done near the airstrip in 1964 (Herreid, 1965).

References:
Moffit, 1904; Moffit, 1905; Purington, 1905; Smith, 1908; Smith and Eakin, 1910; Smith and Eakin, 1911; Henshaw, 1909; Eakin, 1915; Smith, 1917; Brooks, 1918; Mertie, 1918; Harrington, 1919; Martin, 1919; Cathcart, 1920; Martin, 1920; Brooks, 1921; Brooks and Martin, 1921; Harrington, 1921; Brooks, 1923; Mertie, 1923; Smith, 1926; Smith, 1930 (B 810); Smith, 1930 (B 813); Smith, 1932; Smith, 1933 (B 836); Smith, 1933 (B 844-A); Smith, 1934 (B 857-A); Smith, 1934 (B 864-A); Smith, 1936; Smith, 1937; Smith, 1938; Smith, 1939 (B 910-A); Smith, 1939 (B 917-A); Smith, 1941; Smith, 1942; Anderson, 1947; Gault and others, 1953; Cass, 1959; Herreid, 1965; Berg and Cobb, 1967; Miller and Elliott, 1969; Cobb, 1972 (MF 389); Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-866); Bundtzen and others, 1990; Bundtzen and others, 1992.

Primary reference: Harrington, 1919; Herreid, 1965

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Unnamed (on Bear Creek)

Site type: Occurrence

ARDF no.: CA027

Latitude: 65.54 **Quadrangle:** CA C-5

Longitude: 161.06

Location description and accuracy:
This occurrence is on Bear Creek, about a half-mile above the junction of Bob Creek. The map site is 200 feet north of the north end of the airstrip, in section 25, T. 2 N., R. 12 W., of the Kateel River Meridian. Cobb (1972, MF-389), location 15.

Commodities:

Main: Au, Cu, Pb, Zn

Other:

Ore minerals: Bournonite, galena, gold, pyrite, sphalerite

Gangue minerals: Calcite, limonite, quartz

Geologic description:
Miller and Elliott (1969) report that galena, sphalerite and pyrite occur in andesite at the north end of the airstrip on Bear Creek. The sulfides occur in quartz-calcite veinlets and as disseminated grains in the andesite near a mafic syenite dike. The mineralized zone is about 200 feet wide and trends northwest. Gold can be panned from the limonite cap over the mineralized rock. Stream-sediment samples downstream from the mineralized zone indicate a lead-zinc-copper anomaly extending for about a mile. Soil samples from a drainage ditch above the deposit contain anomalous lead and zinc. Placer gold has been intermittently mined on Bear Creek, mostly downstream from the mineralized area. A polished section shows that arsenopyrite, bournonite and a little gold are present in the sulfide aggregate. This occurrence occurs entirely in Jurassic-Cretaceous andesite and has anomalously high values of antimony and gold.

Seven rock samples were collected and analyzed by Miller and Elliot (1969). Gold values were all anomalous and varied from 0.4 to 3.0 ppm; silver varied from 1.5 to 150 ppm; arsenic varied from 500 to greater than 10,000 ppm; copper ranged from 50 to 1,000 ppm; lead ranged from 200 to greater than 20,000 ppm; and zinc varied from 700 to greater than 10,000 ppm.

Alteration:
Limonite alteration.

Age of mineralization:
Jurassic - Cretaceous or younger.

Deposit model:
Sulfides in altered andesite.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Inactive

Workings/exploration:
The site has been visited and sampled by U.S. Geological Survey and ADGGS geologists. Several exploration companies have also visited the occurrence.

Production notes:

Reserves:

Additional comments:
Not well enough exposed to evaluate potential of deposit.

References:
Moffit, 1904; Moffit, 1905; Purington, 1905; Smith, 1908; Smith and Eakin, 1910; Smith and Eakin, 1911; Henshaw, 1909; Eakin, 1915; Smith, 1917; Brooks, 1918; Mertie, 1918; Harrington, 1919; Martin, 1919; Cathcart, 1920; Martin, 1920; Brooks, 1921; Brooks and Martin, 1921; Harrington, 1921; Brooks, 1923; Mertie, 1923; Smith, 1926; Smith, 1930 (B 810); Smith, 1930 (B 813); Smith, 1932; Smith, 1933 (B 836); Smith, 1933 (B 844-A); Smith, 1934 (B 857-A); Smith, 1934 (B 864-A); Smith, 1936; Smith, 1937; Smith, 1938; Smith, 1939 (B 910-A); Smith, 1939 (B 917-A); Smith, 1941; Smith, 1942; Anderson, 1947; Gault and others, 1953; Cass, 1959; Herreid, 1965; Berg and Cobb, 1967; Miller and Elliott, 1969; Cobb, 1972 (MF 389); Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-866); Bundtzen and others, 1987.

Primary reference: Miller and Elliott, 1969; Herreid, 1965

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Canoe Creek

Site type: Occurrence

ARDF no.: CA028

Latitude: 65.55 **Quadrangle:** CA C-6

Longitude: 161.94

Location description and accuracy:
The occurrence is at an elevation of about 250 feet on Canoe Creek. The map site is in section 23, T. 2 N., R. 16 W., of the Kateel River Meridian. The location is accurate within a 1 mile radius. Cobb, 1972 (MF-389), location 2.

Commodities:

Main: Ag, Pb

Other:

Ore minerals: Argentiferous galena

Gangue minerals:

Geologic description:
This occurremce consists of a vein of argentiferous galena 1.5 feet wide near Canoe Creek (Anderson, 1947). The occurrence is in lower Paleozoic schist near a contact with Jurassic andesite.

Alteration:

Age of mineralization:

Deposit model:
Galena vein.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Inactive

Workings/exploration:
This occurrence was sampled in the 1940s by Territorial Department of Mines

(Anderson, 1947). Cominco and other exploration companies examined it in the late 1980's.

Production notes:

Reserves:

Additional comments:

References:

Anderson, 1947; Cass, 1959; Berg and Cobb, 1967 (B 1246); Cobb, 1972 (MF 389); Cobb, 1976 (OFR 76-866).

Primary reference: Anderson, 1947

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Unnamed (west of Bear Creek)

Site type: Occurrence

ARDF no.: CA029

Latitude: 65.55 **Quadrangle:** CA C-5

Longitude: 161.14

Location description and accuracy:
This occurrence is at an elevation of about 1,000 feet on a southeast-facing hillside between Split and Polar Creeks. The map site is in section 22, T. 2 N., R. 12 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 14.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals: Quartz

Geologic description:
This occurrence consists of an auriferous quartz vein that cuts Jurassic-Cretaceous andesite.

Alteration:

Age of mineralization:
Late Cretaceous.

Deposit model:
Gold in quartz vein.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

Gault and others, 1953; Miller and Elliott, 1969; Cobb, 1972 (MF 389); Cobb, 1976 (OFR 76-866).

Primary reference: Gault and others, 1953

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Unnamed (on Quartz Creek)

Site type: Occurrence

ARDF no.: CA030

Latitude: 65.57 **Quadrangle:** CA C-5

Longitude: 161.43

Location description and accuracy:
This occurrence is at an elevation of about 450 feet, on an unnamed tributary of Quartz Creek between Deer and Buck Creeks. The map site is in section 18, T. 2 N., R. 13 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 4, and Miller and Elliott (1969), figure 2, location 7.

Commodities:

Main: Ag, Pb

Other:

Ore minerals: Argentiferous galena, pyrite

Gangue minerals: Calcite

Geologic description:
This occurrence consists of a calcite veinlet containing minor galena. The veinlet cuts altered Jurassic-Cretaceous andesite near its contact with quartz monzonite of the Cretaceous Quartz Creek pluton. A grab sample from this location contained: 300 ppm Pb and a trace Ag (Miller and Elliott, 1969).

Alteration:
Hydrothermal.

Age of mineralization:
Late Cretaceous.

Deposit model:
Galena in calcite vein.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Inactive

Workings/exploration:

The area has been mapped and examined by the U.S. Geological Survey and various exploration companies.

Production notes:

Reserves:

Additional comments:

This site is one of numerous occurrences of argentiferous galena, sphalerite, pyrite and arsenopyrite in an 18-mile-long, 2- to 5-mile-wide zone of altered andesite surrounding the Quartz Creek quartz monzonite pluton. The altered zone trends N 15 W, across the drainage basins of Quartz Creek and the Kiwalik River, parallel to prominent lineaments in the area.

References:

Miller and Elliott, 1969; Cobb, 1972 (MF 389); Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-866).

Primary reference: Miller and Elliott, 1969

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Sheridan Creek; Sherdon Creek

Site type: Mine

ARDF no.: CA031

Latitude: 65.58 **Quadrangle:** CA C-5

Longitude: 161.09

Location description and accuracy:
The Sheridan Creek placer mine is 0.8 mile upstream from the mouth of the creek. The map site is in section 14, T. 2 N., R. 12 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 28.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
Bedrock at the Sheridan Creek placer mine is mainly andesite tuffs and flows, and some basic intrusives. The gold is on bedrock and is accompanied by pyrite and magnetite in the concentrates. It assayed $19.20 an ounce (Harrington, 1919).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au-PGE (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

Stream gradient approximately 150 feet per mile. No sign of recent work in 1964.

References:

Moffit, 1904; Moffit, 1905; Henshaw, 1909; Smith and Eakin, 1910; Smith and Eakin, 1911; Eakin, 1915; Harrington, 1919; Cass, 1959; Herreid, 1965; Cobb, 1972 (MF 389); Cobb, 1976 (OFR 76-866).

Primary reference: Harrington, 1919

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Unnamed (on Quartz Creek)

Site type: Occurrence

ARDF no.: CA032

Latitude: 65.575 **Quadrangle:** CA C-6

Longitude: 161.467

Location description and accuracy:
This occurrence is at an elevation of about 400 feet on the north side of Quartz Creek, approximately 8 miles upstream from its junction with Kiwalik River. The map site is in the SE1/4 of section 11, T. 2 N., R. 14 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 3 and Miller and Elliott (1969), figure 2, location 2 and 3.

Commodities:

Main: Ag, Pb, Zn

Other: Au

Ore minerals: Argentiferous galena, arsenopyrite, gold, pyrite, sphalerite

Gangue minerals: Calcite, quartz

Geologic description:
The country rocks in the area of this occurrence include the Upper Cretaceous Quartz Creek pluton, and Jurassic-Cretaceous andesitic volcanic rocks that are cut by fine-grained dikes less than 30 feet thick. The dikes contain quartz and calcite veins carrying disseminated pyrite, arsenopyrite, argentiferous galena, and sphalerite. The veins occur near the contact with quartz monzonite of the Quartz Creek pluton. Analyses of grab samples by Miller and Elliot (1969) gave the following results: location 2A contained 70 ppm Cu and 700 ppm Pb; location 3B contained 20 ppm Ag, 300 ppm Cu, greater than 2% Pb, and greater than 1 % Zn. The mineral occurrences in the Quartz Creek area are generally anomalous in boron and tin.

Alteration:
Hydrothermal.

Age of mineralization:
Late Cretaceous.

Deposit model:
Sulfides in quartz and calcite veins that cut andesite.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: Undetermined

Site Status: Inactive

Workings/exploration:

The area has been mapped and examined by the U.S. Geological Survey and various exploration companies.

Production notes:

Reserves:

Additional comments:

This site is one of numerous occurrences of argentiferous galena, sphalerite, pyrite and arsenopyrite in an 18-mile-long, 2- to 5-mile-wide zone of altered andesite surrounding the Quartz Creek quartz monzonite pluton. The altered zone trends N 15 W, across the drainage basins of Quartz Creek and the Kiwalik River, parallel to prominent lineaments in the area.

References:

Miller and Elliott, 1969; Cobb, 1972 (MF 389); Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-866).

Primary reference: Miller and Elliott, 1969

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Connolly Creek

Site type: Occurrence

ARDF no.: CA033

Latitude: 65.65 **Quadrangle:** CA C-6

Longitude: 161.63

Location description and accuracy:
This occurrence is at an elevation of about 500 feet on a westward-flowing tributary of Connolly Creek. The map site is in section 20, T. 3 N., R. 14 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 26.

Commodities:

Main: Radioactive minerals

Other:

Ore minerals: Uranothorianite

Gangue minerals:

Geologic description:
Bedrock in this area is Cretaceous granite which may contain uranium-bearing minerals. Uranothorianite was found in two pan concentrate samples (Gault and others, 1953).

Alteration:

Age of mineralization:

Deposit model:
Radioactive minerals in stream sediments.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Inactive

Workings/exploration:
Two pan concentrate samples were collected from the area and analyzed for uranium content by the U.S. Geological Survey (Gault and others, 1953).

Production notes:

Reserves:

Additional comments:
Stream gradient approximately 200 feet per mile.

References:
Gault and others, 1953; Cobb, 1972 (MF 389); Cobb, 1976 (OFR 76-866).

Primary reference: Gault and others, 1953

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Spruce Creek

Site type: Prospect

ARDF no.: CA034

Latitude: 65.68 **Quadrangle:** CA C-5

Longitude: 161.46

Location description and accuracy:
This prospect is at an elevation of about 1,200 feet on Spruce Creek. The map site is near the north end of the boundary between sections 7 and 12, T. 3 N., R. 14 W., of the Kateel River Meridian.

Commodities:

Main: Au?

Other: Radioactive minerals

Ore minerals: Gold?

Gangue minerals: Gummite, uranothorianite

Geologic description:
This prospect consists of Upper Cretaceous or Lower Tertiary granite which may contain uranium-bearing minerals. A sample of stream-gravel concentrate contained 0.033% eU (Gault and others, 1953).

Alteration:

Age of mineralization:

Deposit model:
Radioactive minerals in stream sediments.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: Undetermined

Site Status: Inactive

Workings/exploration:
In 1947 the U.S. Geological Survey sampled the stream sediments to evaluate their ra-

dioactive mineral content (Gault and others, 1953).

Production notes:

Reserves:

Additional comments:
Stream falls approximately 400 feet in headwater mile.

References:
Gault and others, 1953; Cobb, 1972 (MF 389); Cobb, 1976 (OFR 76-866).

Primary reference: Gault and others, 1953

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Sugar Loaf Creek

Site type: Prospect

ARDF no.: CA035

Latitude: 65.74 **Quadrangle:** CA C-5

Longitude: 161.17

Location description and accuracy:
This prospect is at an elevation of about 700 feet on Sugar Loaf Creek, approximately 1.5 miles above its mouth. The map site is in section 21, T. 4 N., R. 12 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 24.

Commodities:

Main: Au?

Other: Radioactive minerals

Ore minerals: Gold?

Gangue minerals: Orangite, thorite

Geologic description:
Stream and bench gravels at this site have been prospected or mined for gold. Concentrate samples collected from the gravels contained thorium minerals (Gault and others, 1953).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au-PGE (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined

Site Status: Inactive

Workings/exploration:

In 1945 the U.S. Geological Survey sampled the stream sediments to evaluate their radioactive mineral content (Gault and others, 1953).

Production notes:

Reserves:

Additional comments:

Stream gradient approximately 200 feet per mile.

References:

Gault and others, 1953; Cobb, 1972 (MF 389); Cobb, 1976 (OFR 76-866).

Primary reference: Gault and others, 1953

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Unnamed (Muck Creek)

Site type: Occurrence

ARDF no.: CA036

Latitude: 65.76 **Quadrangle:** CA D-6

Longitude: 161.52

Location description and accuracy:
This occurrence is at the head of Muck Creek, an informally named, north-flowing tributary to Hunter Creek. The map site is in section 14, T. 4 N., R. 14 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 25.

Commodities:

Main: Radioactive minerals, W

Other:

Ore minerals: Pyrite, scheelite, uranothorianite

Gangue minerals:

Geologic description:
The Muck Creek area is underlain by Upper Cretaceous granitic rocks that may contain uranium-bearing minerals (Gault and others, 1953). Two pan-concentrate samples of stream gravels contained 0.125% and 0.16% equivalent uranium. Heavy minerals from the concentrate include garnet, hornblende, augite, sphene, zircon, epidote, apatite, schleeite, powellite, ilmenite, hematite, limonite, magnetite, uranothorianite, and pyrite.

Alteration:

Age of mineralization:
Late Cretaceous; Quaternary.

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: Undetermined

Site Status: Inactive

Workings/exploration:

Two pan-concentrate samples were collected and analyzed for uranium content by the U.S. Geological Survey (Gault and others, 1953).

Production notes:

Reserves:

Additional comments:

Stream gradient approximately 150 feet per mile.

References:

Gault and others, 1953; Cobb, 1972 (MF 389); Cobb, 1973 (B 1374); Cobb, 1975 (MR-66); Cobb, 1976 (OFR 76-866).

Primary reference: Gault and others, 1953

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Meinzer Creek

Site type: Prospect

ARDF no.: CA037

Latitude: 65.78 **Quadrangle:** CA D-5

Longitude: 161.25

Location description and accuracy:
This prospect is approximately a half-mile below the head of Meinzer Creek. The map site is in section 6, T. 4 N., R. 12 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 23.

Commodities:

Main: Au?, radioactive minerals

Other:

Ore minerals: Gold?, uranothorianite

Gangue minerals:

Geologic description:
Bedrock along Meinzer Creek is Upper Cretaceous to Lower Tertiary granitic rock which may contain uranium-bearing minerals. Uranothorianite was identified in a concentrate sample from stream gravels (Gault and others, 1953).

Alteration:

Age of mineralization:
Late Cretaceous; Quaternary.

Deposit model:
Uranothorianite in stream-sediment concentrate.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: Undetermined

Site Status: Inactive

Workings/exploration:

Several stream-sediment samples were collected by the U.S. Geological Survey in 1947 (Gault and others, 1953).

Production notes:

Reserves:

Additional comments:

Creek at the headwaters falls approximately 500 feet mile.

References:

Gault and others, 1953; Cobb, 1972 (MF 389); Cobb, 1976 (OFR 76-866).

Primary reference: Gault and others, 1953

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Jump Creek

Site type: Mine

ARDF no.: CA038

Latitude: 65.89 **Quadrangle:** CA D-6

Longitude: 161.98

Location description and accuracy:
The Jump Creek placer mines on lower Jump Creek approximately one mile upstream from its confluence with Candle Creek. Areas mined on Jump Creek extend west onto the Bendeleben D-1 quadrangle. The map site is in section 26, T. 6 N., R. 16 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 18.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
Jump Creek was the placer gold discovery site which opened up exploration in the Candle Creek drainage. Both bench and stream placer deposits are found on on the creek. The creek gravels range from 12 to 18 feet thick and are covered by 10 to 20 feet of tundra. Gravels in bench deposits are 4 to 10 feet thick and are overlain by 5 to 10 feet of tundra. All of the ground is permanently frozen. Bedrock is early Paleozoic quartz-mica schist (Gault and others, 1953). See Candle Creek (ARDF number BN074, Hudson, 1999) and Jump Creek (ARDF number BN070, Hudson, 1999) in the Bendeleben quadrangle for additional information.

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au-PGE (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

39a

Production Status: Yes; small

Site Status: Probably inactive

Workings/exploration:

Gold has been mined fairly continuously from the early 1900's through 1945 by drifting, hydraulicking and dredging. Keewalik Mining operated a dredge near the mouth of the creek in the early 1930's. Small-scale mining and prospecting has been done from the 1950's through the 1980's.

Production notes:

Reserves:

Additional comments:

Also see Candle Creek (ARDF number BN074, Hudson, 1999) and Jump Creek (ARDF number BN070, Hudson, 1999) in the Bendeleben quadrangle.

References:

Henshaw, 1909; Eakin, 1915; Harrington, 1919; Cathcart, 1920; Smith, 1930 (B 810); Smith, 1930 (B 813); Smith, 1932; Smith, 1933 (B 836); Smith, 1933 (B 844-A); Smith, 1934 (B 857-A); Smith, 1934 (B 864-A); Smith, 1938; Smith, 1939 (B 910-A); Smith, 1939 (B 917-A); Smith, 1941; Smith, 1942; Gault and others, 1953; Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-866); Eakins and others, 1985; Bundtzen and others, 1986; Hudson, 1999.

Primary reference: Harrington, 1919; Gault and others, 1953

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): John Bull Hill

Site type: Mine

ARDF no.: CA039

Latitude: 65.91 **Quadrangle:** CA D-6

Longitude: 161.93

Location description and accuracy:
The John Bull Hill hillside placer mine is on the right bank of Candle Creek, just above its confluence with Kiwalik River. The placer extends southwest from Kiwalik River parallel to Candle Creek for about a mile. The map site is in section 24, T. 6 N., R. 16 W., of the Kateel River Meridian.

Commodities:

Main: Au

Other:

Ore minerals: Gold, pyrite

Gangue minerals:

Geologic description:
The John Bull Hill mine is an area of extensive, hillside placers along the right bank of Candle Creek near the mouth. Data from 53 drill holes showed 15 to 60 feet of ice and muck, 0 to 18 feet of barren gravel, 0 to 25 feet of auriferous gravel, 1 to 29 feet total gravel and 0 to 13 feet of auriferous bedrock. Averages of the drillhole data are: 35.0 feet ice and muck, 4.2 feet barren gravel, 6.7 feet auriferous gravel and 3.1 feet auriferous bedrock. Three of the holes bottomed in limestone bedrock and the others bottomed in decomposed schist (Henshaw, 1909). All ground is frozen. A gold nugget worth $62.10 (Au at $20.67 per ounce) was found. Concentrates contain abundant pyrite, hematite, rutile, occasional garnet, and little magnetite.

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au-PGE (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Yes; medium

Site Status: Active

Workings/exploration:
The placer has been mined since the early 1900's. Exploration was by drifting and drilling. Mining through the 1950's was mainly by hydraulic methods. All the ground in the area is frozen and requires stripping and thawing prior to mining. Since the 1980's the area has been open-cut mined by front end loaders.

Production notes:

Reserves:
Arctic Circle Enterprises estimated gold reserves on John Bull Hill to be 8,500 ounces in 1952 (Williams, 1998).

Additional comments:

References:
Moffit, 1905; Henshaw, 1909; Henshaw, 1910; Harrington, 1919; Smith, 1937; Gault and others, 1953; Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-866); Hudson and others, 1977; Eakins and others, 1983; Eakins and others, 1985; Bundtzen and others, 1986; Williams, 1998.

Primary reference: Henshaw, 1909; Williams, 1998

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Candle Creek

Site type: Mine

ARDF no.: CA040

Latitude: 65.91 **Quadrangle:** CA D-6

Longitude: 161.92

Location description and accuracy:

The active mining area along Candle Creek extends from its confluence with the Kiwalik River at the Candle townsite upstream approximately 7 miles to the boundary of the Bendeleben quadrangle and then 9 miles to Potato Creek. The reference point is the center of the Candle airstrip, in section 24, T. 6 N., R. 16 W., of the Kateel River Meridian. Cobb, 1972 (MF 389), locations 1 and 18.

Commodities:

Main: Ag, Au

Other:

Ore minerals: Gold, silver

Gangue minerals:

Geologic description:

Placer gold was discovered on Candle Creek in 1901 and the deposit has been mined almost continuously since that time.

The geology of the area is not well understood due to extensive ground cover. In general the area is underlain by late Precambrian to early Paleozoic quartz mica schists which are cut by small quartz stringers and granitic dikes. The schists are overlain unconformably by metamorphosed early to mid-Paleozoic limestones. Igneous rocks of Late Cretaceous to Tertiary age intrude the older metamorphics. The dominant igneous lithology in the Candle area is medium-grained, quartz monzonite which is exposed in placer workings at Camp 19 in the Bendeleben quadrangle. Quartz float is very common in stream beds and tailings. The age of the quartz is unknown. The source of the placer gold is thought to be from quartz veins crosscutting the schist bedrock.

A general cross section of the placer ground on Candle Creek is schist bedrock overlain by 12 to 18 feet of gold-bearing creek gravels. The gravels in turn are covered by 10 to 20 feet of ice, muck, slide rock, and tundra. The placer gold is generally flattened, coarse and coated with a dark, organic iron oxide. The gold fineness is 857. Gold is often found in and associated with ironstone concretions commonly found in the gravels. All of the ground is frozen and some areas contain large ice wedges. Placer concentrates con-

tain arsenopyrite, abundant pyrite, galena, chalcopyrite, ilmenite, rutile, garnet, cerusite and occasional magnetite (Cobb, 1976, OFR 76-866).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au-PGE (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Yes; medium

Site Status: Active?

Workings/exploration:
Placer gold was discovered on Candle Creek in 1901 and the deposit has been mined almost continuously since that time. The creek gravels were first mined by hand methods. Hydraulicking and drift mining was used on bench deposits. A small dredge was brought to the creek in 1914. In the early 1920's, two larger dredges were brought to the creek. To define the reserves for the dredges, shafts were sunk and several lines of drill holes were drilled. The dredging continued on Candle Creek until the early 1950's; it extended from above Camp 19 in the Bendeleben quadrangle to the confluence with the Kiwalik River. Small-scale placer activities continue on the creek. BHP Utah conducted a soil sampling and mapping program in 1990 for lode gold.

Production notes:
Harrington (1919) estimates that by 1917 $325,000 of gold (at $20.67/ounce) had been taken from Candle Creek. It is estimated that production from Candle Creek has exceeded 600,000 ounces of gold since 1901 (Williams, 1998).

Reserves:

Additional comments:
All gravels are frozen and require stripping and thawing.

References:
Mendenhall, 1902; Moffit, 1904; Moffit, 1905; Purington, 1905; Brooks, 1907; Smith, 1908; Henshaw, 1909; Henshaw, 1910; Smith and Eakin, 1910; Chapin, 1914; Eakin, 1915; Smith, 1917; Mertie, 1918; Harrington, 1919; Cathcart, 1920; Harrington, 1921; Brooks, 1922; Brooks, 1925; Smith, 1926; Moffit, 1927; Smith, 1929; Smith, 1930 (B 810); Smith, 1930 (B 813); Smith, 1932; Smith, 1933 (B 836); Smith, 1933 (B 844-A); Smith, 1934 (B 857-A); Smith, 1934 (B 864-A); Smith, 1936; Smith, 1937; Smith, 1938;

Smith, 1939 (B 910-A); Smith, 1939 (B 917-A); Smith, 1941; Smith, 1942; Anderson, 1947; Gault and others, 1953; Cass, 1959; Herreid, 1965; Berg and Cobb, 1967; Koschman and Bergendahl, 1968; Miller and Elliott, 1969; Cobb, 1972 (MF 389); Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-866); Williams, 1998.

Primary reference: Harrington, 1919; Williams, 1998

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Kiwalik Flats; Keewalik Flats

Site type: Mine

ARDF no.: CA041

Latitude: 65.92 **Quadrangle:** CA D-6

Longitude: 161.91

Location description and accuracy:
The Kiwalik Flats placer mine is on the east bank of the Kiwalik River, about a half-mile northeast of Candle. The coordinates are for the approximate center of the area of mine tailings shown on the Candle D-6 map. The map site is in section 18, T. 6 N., R. 15 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 19.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
Placer gold occurs in river gravels in buried paleo-channels of the Kiwalik River at the confluence of Candle Creek. The deposit is overlain by an average of 16 feet (range from 0 to 50 feet in thickness) of frozen, organic-rich silt and clay. The pay gravel varies from 5 to 23 feet thick (average of 13 feet). Concentrates contain garnet, pyrite, and magnetite. Bedrock is quartz-mica schist.

The property was extensively explored from 1935 to 1940. A portion of the property was dredged in the mid 1940's. The area was re-evaluated in the mid-1980's and mined with a drag line from 1988 through 1991.

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au-PGE (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

39a

Production Status: Yes; medium

Site Status: Inactive

Workings/exploration:

The Kiwalik Flats mine area was extensively explored by shafts and churn drill holes in 1935 by Keewalik Mining and in 1940 by Arctic Circle Exploration. A small portion of the deposit was dredged by the mid-1940's. In the early 1980's, the dredge tailings were reworked. In 1984, a program of 5 churn drill holes was completed to verify previous results and recalculate reserves. The 1984 drilling program determined that the upper 7 feet of gravel was mostly barren and that by stripping it as waste the grade of the deposit could be increased from 0.0237 ounces of gold per cubic yard to 0.0463 ounces per cubic yard. The area was mined by drag line from 1988 through 1991 by GHD (Douglas Culp, personal communication, 1998). In 1989, GHD processed 98,000 cubic yards of pay gravel. In 1991, GHD's last year of production, 15,000 cubic yards of overburden were stripped and 70,000 cubic yards of gravel were washed. The pay gravel is below water level so gravel must be removed from the pit for washing.

Production notes:

Production from 1988 through 1991 was approximately 9,900 ounces of gold (Shaffer, 1997).

Reserves:

Based on calculations from drilling by Arctic Circle Exploration in 1940, remaining reserves on the Kiwalik Flats were 43,130 ounces of gold in 2.35 million cubic yards of gravel, overlain by with 3.36 million cubic yards of overburden (Shaffer, 1997).

Additional comments:

River gradient under 25 feet per mile.

References:

Gault and others, 1953; Cass, 1959; Cobb, 1972 (MF 389); Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-866); Muntzert, 1983; Muntzert, 1986; Bundtzen and others, 1990; Bundtzen and others, 1992; Shaffer, 1997.

Primary reference: Muntzert, 1986; Shaffer, 1997

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Unnamed (tributary to Duck Creek)

Site type: Occurrence

ARDF no.: CA042

Latitude: 65.93 **Quadrangle:** CA D-5

Longitude: 161.43

Location description and accuracy:
This occurrence is along a small, westward-flowing tributary to Duck Creek about 1.5 mile from its junction with that creek. The map site is in section 16, T. 6 N., R. 13 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 20.

Commodities:

Main: Radioactive minerals

Other:

Ore minerals: Uranothorianite

Gangue minerals:

Geologic description:
Bedrock in the area is undifferentiated Cretaceous granite that may contain uranium-bearing minerals. No outcrops are present at the occurrence. Uranothorianite was identified in a pan concentrate sample of stream gravels (Gault and others, 1953).

Alteration:

Age of mineralization:

Deposit model:
Radioactive minerals in stream gravels.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Inactive

Workings/exploration:
Pan concentrate samples collected and analyzed for uranium content by the U.S. Geo-

logical Survey (Gault and others, 1953).

Production notes:

Reserves:

Additional comments:
Stream gradient approximately 200 feet per mile in lower mile of creek.

References:
Gault and others, 1953; Cobb, 1972 (MF 389); Cobb, 1976 (OFR 76-866).

Primary reference: Gault and others, 1953

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Minnehaha Creek; Mud Creek

Site type: Mine

ARDF no.: CA043

Latitude: 65.95 **Quadrangle:** CA D-6

Longitude: 161.99

Location description and accuracy:
The Minnehaha Creek placer mine is about 2.5 miles northwest of Candle. The mine extends downstream for 1 to 2 miles from near the cabins at the head of Mud Creek, which nearly joins Minnehaha Creek at the south end of the workings. The map site is in section 2, T. 6 N., R. 16 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 17. This site is commonly referred to as the Mud Creek mine.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
This placer gold deposit reportedly is at the edge of a paleo-lagoon on a 100,000-year-old Sangamon shoreline (Robson and others, 1983). The entire area is blanketed by a thick cover of loess and muck. All ground is frozen. The depth to bedrock is highly variable. The muck section ranges from 6 to 38 feet and the pay or mining section varies from 2 to 63 feet. Bedrock is highly weathered schist often described as sand and clay with schist fragments. Minerals in the concentrate include goethite, magnetite, and galena. Cinnabar has been reported in the concentrate, but the mineral may be rutile.

Small-scale underground drifting was done on the property when it was discovered in the early 1900s. A drilling program was done by Havenstrite in 1941 to identify reserves, which they mined for the next few years. Noranda explored the property in 1982-83 with a drilling program. The property has been mined on a small scale almost continuously to the present (1999).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au-PGE (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Yes; small

Site Status: Active

Workings/exploration:
Small-scale underground drifting was done on the property when it was discovered in the early 1900s. Havenstrite completed a drilling program in 1941 and mined the property for a few years. Small-scale surface mining was done until 1982 when Noranda Exploration acquired the claims and drilled 72 holes totaling 4,200 feet. Noranda dropped the claims after a few years and small-scale mining and assessment work continued on the property to the present (1999). The gravel is frozen and ice lenses are present in the muck and gravel.

Production notes:
Production between 1947 and 1980 was probably about 10,000 ounces of gold from 277,890 cubic yards of gravel. The property has been actively mined since the mid-1980's. From 1992 through 1996, approximately 3,000 ounces were produced.

Reserves:
In 1941, a drill program by Havenstrite was completed which delineated indicated reserves of 48,000 ounces of gold in 1.8 million cubic yards of gravel. Reevaluation of the drill logs by C. Herbert in 1979 indicated existing reserves of 27,940 ounces of gold, or 1.12 million cubic yards of gravel that contained 0.025 ounces gold per cubic yard. In 1982, Noranda Exploration drilled 72 holes that totaled 4,200 feet. Noranda (1983) calculated reserves at Mud Creek as 73,000 ounces of gold in 2.8 million cubic yards of gravel. Estimated reserves as of October, 1996, were more than 50,000 ounces (Johnson, 1996).

Additional comments:
Stream gradient under 50 feet per mile.

References:
Mendenhall, 1902; Anderson, 1947; Cobb, 1972 (MF 389); Cobb, 1973 (B 1374); Herbert, 1979; Robson and others, 1983; Johnson, 1996.

Primary reference: Robson and others, 1983

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Unnamed (south of Clem Mountain)

Site type: Occurrence

ARDF no.: CA044

Latitude: 65.96 **Quadrangle:** CA D-5

Longitude: 161.39

Location description and accuracy:
This occurrence is at an elevation of about 600 feet in the headwaters of an unnamed tributary of Duck Creek, about 1.4 miles south of Clem Mountain. The map site is in section 34, T. 7 N., R. 13 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 21.

Commodities:

Main: Radioactive minerals

Other:

Ore minerals: Uranothorianite

Gangue minerals: Sphene, zircon

Geologic description:
This occurrence consists of Upper Cretaceous-Lower Tertiary granite that may contain uranium-bearing minerals. Uranothorianite was found in a concentrate sample of stream gravels (Gault and others, 1953). The sample contained 0.106% eU.

Alteration:

Age of mineralization:
Late Cretaceous.

Deposit model:
Uranothorianite in stream sediments.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Inactive

Workings/exploration:

In 1947 the U.S. Geological Survey sampled the creek sediment to evaluate its radioactive mineral content (Gault and others, 1953).

Production notes:

Reserves:

Additional comments:

Creek falls approximately 200 feet in headwater mile.

References:

Gault and others, 1953; Cobb, 1972 (MF 389); Cobb, 1976 (OFR 76-866).

Primary reference: Gault and others, 1953

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Unnamed (south east of Clem Mountain)

Site type: Occurrence

ARDF no.: CA045

Latitude: 65.97 **Quadrangle:** CA D-5

Longitude: 161.34

Location description and accuracy:
This occurrence is at an elevation of about 400 feet near the confluence of two headwaters forks of an unnamed tributary to Kanik Creek, about two miles southeast of Clem Mountain. The map site is in section 35, T. 7 N., R. 13 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 22.

Commodities:

Main: Radioactive minerals

Other:

Ore minerals: Thorite, uranothorianite

Gangue minerals:

Geologic description:
This occurrence consists of Cretaceous granite that may contain uranium-bearing minerals. Uranothorianite and trace of thorite were found in stream gravel concentrate samples (Gault and others, 1953).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Radioactive minerals in stream sediments.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Inactive

Workings/exploration:

Pan concentrate samples were collected and analyzed for uranium content by the U.S. Geological Survey in 1947 (Gault and others, 1953).

Production notes:

Reserves:

Additional comments:

Stream gradient approximately 300 feet per mile in headwater section of creek.

References:

Gault and others, 1953; Cobb, 1972 (MF 389); Cobb, 1976 (OFR 76-866).

Primary reference: Gault and others, 1953

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Koopuk Creek; Koo-o-puk Creek; Koobuk Creek

Site type: Mine

ARDF no.: CA046

Latitude: 65.97 **Quadrangle:** CA D-5

Longitude: 160.96

Location description and accuracy:
The Koopuk Creek placer mine is located in the headwaters of Koopuk Creek. The map site is at the boundary of sections 29 and 32, T. 7 N., R. 11 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), location 47.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
Gold was reported to have been mined from a stream placer deposit in Koopuk (Koobuk) Creek in the 1920's. The drainage area of Koopuk Creek is underlain by Cenozoic lava flows.

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au-PGE (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:

Gold was reported to have been mined from a stream placer deposit in Koopuk (Koobuk) Creek in the 1920's.

Production notes:

Reserves:

Additional comments:

Stream gradient 50 to 75 feet per mile.

References:

Brooks, 1925; Smith, 1926; Moffit, 1927; Smith, 1930 (B 810); Cobb, 1972 (MF 389); Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-866).

Primary reference: Cobb, 1973 (B 1374)

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Upper Sweepstakes Creek

Site type: Mine

ARDF no.: CA047

Latitude: 65.39 **Quadrangle:** CA B-5

Longitude: 161.31

Location description and accuracy:
The upper Sweepstakes Creek placer mine is on upper Sweepstakes Creek about 1 mile west-southwest of the landing strip on Granite Mountain. This site includes a prospect approximately 2 miles downstream from the mine. The map site is at the mine symbol in section 15, T. 1 S., R. 13 W., of the Kateel River Meridian. Cobb, 1972 (MF-389), locations 39 and 40.

Commodities:

Main: Au

Other: Radioactive minerals

Ore minerals: Gold

Gangue minerals:

Geologic description:
Gold has been placer mined from low bench deposits along the east side of the upper Sweepstakes Creek. Depth to bedrock is 15 feet on lower claims. Gravels in the creek bed are 6 to 14 feet deep. On benches 2 to 12 feet of muck overlies 2 to 8 feet of gravel. A few inches of partially-decomposed bedrock was excavated during mining (Harrington, 1919). Sweepstakes Creek drains the southwestern part of the Cretaceous Granite Mountain monzonite pluton. Heavy minerals in the concentrate include chrome spinel, garnet, hematite, hydrothorianite, ilmenite, magnetite, pyrite, uranothorianite, and zircon (Gault and others, 1953).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au-PGE (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:
Small-scale gold-placer mining took place on upper Sweepstakes Creek from the early 1900's until the 1950's. Numerous prospect pits have been dug along the stream benches. In 1947, the U.S. Geological Survey sampled the placer to evaluate its radioactive mineral content (Gault and others, 1953).

Production notes:

Reserves:

Additional comments:

References:
Brooks, 1913; Eakin, 1915; Smith, 1917; Harrington, 1919; Martin, 1919; Cathcart, 1920; Martin, 1920; Brooks, 1921; Brooks and Martin, 1921; Harrington, 1921; Brooks, 1923; Mertie, 1923; Smith, 1926; Smith, 1929; Smith, 1930 (B 810); Smith, 1930 (B 813); Smith, 1932; Smith, 1933 (B 836); Smith, 1933 (B 844-A); Smith, 1934 (B 857-A); Smith, 1934 (B 864-A); Smith, 1936; Smith, 1937; Smith, 1938; Smith, 1939 (B 910-A); Smith, 1939 (B 917-A); Smith, 1941; Smith, 1942; Anderson, 1947; Wedow and others, 1952; Gault and others, 1953; Cass, 1959; Cobb, 1972 (MF 389); Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-866).

Primary reference: Harrington, 1919; Gault and others, 1953

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Beltz

Site type: Prospect

ARDF no.: CA048

Latitude: 65.56 **Quadrangle:** CA C-5

Longitude: 161.11

Location description and accuracy:
The Beltz prospect is at an elevation of about 1,000 feet on the ridge about 0.6 miles west-northwest of the junction of Split and Bear Creeks. The map site is in section 23, T. 2 N., R. 12 W., of the Kateel River Meridian.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite, malachite

Gangue minerals: Iron oxides, quartz

Geologic description:
Bedrock at the Beltz prospect is mainly altered, Jurassic-Cretaceous andesitic tuff and greenstone cut by mafic and felsic dikes. Quartz and calcite veins carry disseminated chalcopyrite. The rocks are iron- and copper-stained (Harrington, 1919).

Alteration:
Local iron- and copper-staining.

Age of mineralization:
Jurassic-Cretaceous or younger.

Deposit model:
Chalcopyrite-quartz-calcite veins in andesite, tuff, and greenstone.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Inactive

Workings/exploration:

The deposit has been prospected by ten or more small pits. In 1917, the pits were badly caved and filled with slope talus (Harrington, 1919). The site was visited by Herreid (1965), who reports a trench 80 feet long and 3 to 5 feet deep.

Production notes:

Reserves:

Additional comments:

References:

Harrington, 1919; Cathcart, 1922; Anderson, 1947; Gault and others, 1953; Herreid, 1965; Berg and Cobb, 1967; Cobb, 1972 (MF 389); Cobb, 1976 (OFR 76-866).

Primary reference: Harrington, 1919

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Hunter Creek

Site type: Occurrence

ARDF no.: CA049

Latitude: 65.75 **Quadrangle:** CA D-5

Longitude: 161.47

Location description and accuracy:
The occurrence is at an elevation of about 350 feet the right fork of Hunter Creek. The occurrence extends about a mile in both directions along the creek. The map site is in section 13, T. 4 N., R. 14 W., Kateel River Meridian.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
Stream and bench gravels along the right fork of Hunter Creek have been prospected or mined for placer gold. One man prospected on the right fork in 1947.

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au-PGE (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Gault and others, 1953; Cass, 1959; Cobb, 1976 (OFR 76-866).

Primary reference: Gault and others, 1953

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

Site name(s): Greenstone Creek

Site type: Occurrence

ARDF no.: CA050

Latitude: 65.17 **Quadrangle:** CA A-5

Longitude: 161.14

Location description and accuracy:
This reported occurrence is on Greenstone Creek near its junction with Dime Creek. The map site is in section 4, T. 4S., R. 12 W., Kateel River Meridian.

Commodities:

Main: Pt?

Other:

Ore minerals: Platinum?

Gangue minerals:

Geologic description:
A placer deposit of platinum reportedly is in the gravels of Greenstone Creek, and in the gravels of Dime Creek below the mouth of Greenstone Creek (Mertie, 1918).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer PGE-Au (Cox and Singer, 1986; model 39a).

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Mertie, 1918; Cobb, 1976 (OFR 76-866).

Primary reference: Mertie, 1918

Reporter(s): Anita Williams (Anchorage, AK)

Last report date: 01/12/00

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